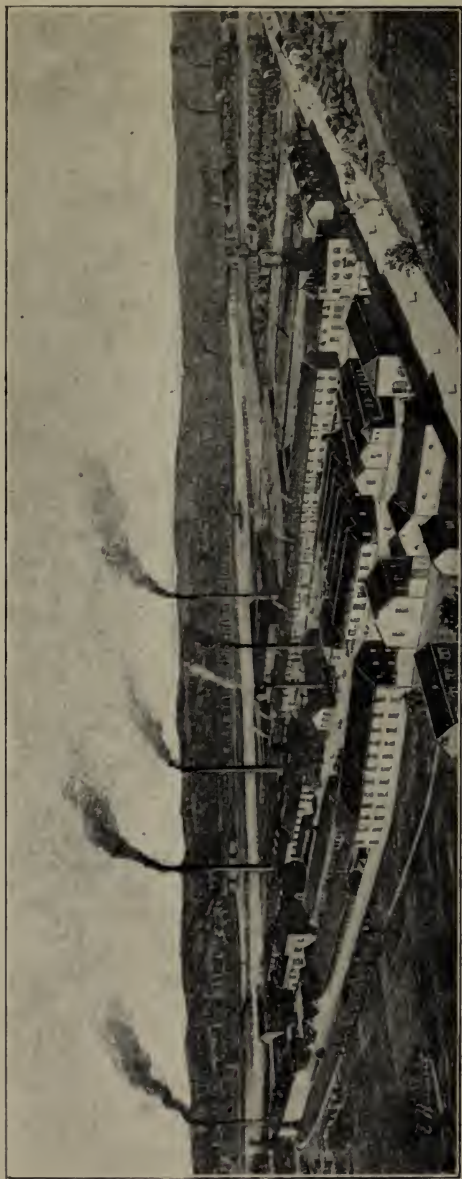






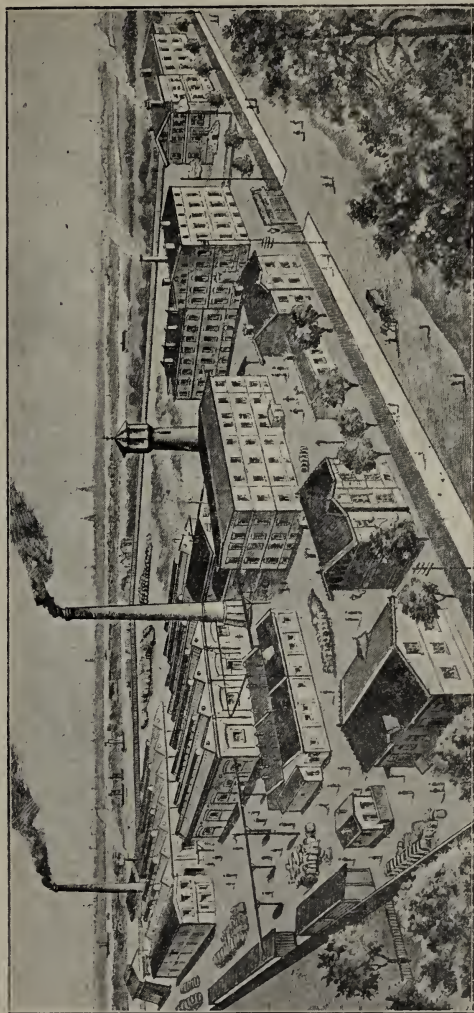
210

MANUFACTURE LYONNAISE DE MATIÈRES COLORANTES, LYONS.



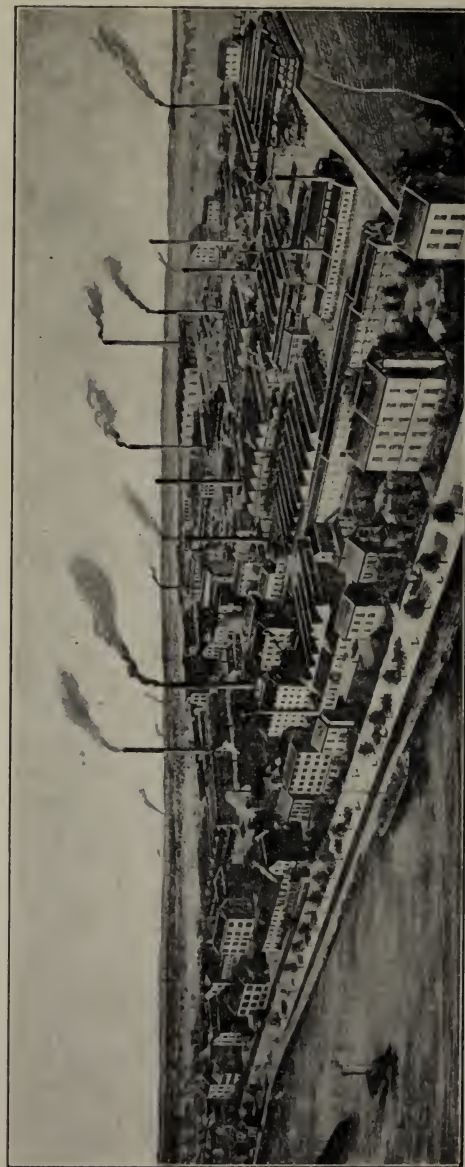
Works "La Mouche".

RUSSIAN ANILINE COLOUR WORKS LEOPOLD CASSELLA & CO., RIGA.



Works at Riga.

LEOPOLD CASSELLA & Co, FRANKFORT o. M.



Works at Mainkur near Frankfort o. M.

Immedial Brown.

CASSELLA COLOR COMPANY

(AMERICAN BRANCH OF LEOPOLD CASSELLA & CO)

182 AND 184 FRONT STREET

NEW YORK

BOSTON: 68 ESSEX STREET

PHILADELPHIA: 126 AND 128 SOUTH FRONT STREET

PROVIDENCE: 64 EXCHANGE PLACE

ATLANTA: 47 NORTH PRYOR STREET

MONTREAL, P. Q.: 86 AND 88 YOVILLE SQUARE.

Immedial Brown.

Besides the blue and black Immedial Colours, the brown dyestuffs of this group are steadily gaining in importance owing to the fact that by exceedingly simple methods of working any useful shade of brown, possessing prominent properties of fastness, may be produced therewith.

The following are the dyestuffs belonging to this group:

Immedial Cutch O pat.
Immedial Cutch G pat.
Immedial Brown B pat.
Immedial Maroon B conc. pat.
Immedial Dark Brown A pat.
Immedial Dark Brown conc. pat.
Immedial Brown W conc. pat.
Immedial Brown RR conc. pat.
Immedial Yellow Brown E pat.
Immedial Bronze A pat.

The baths are charged alike for all brands, with

1 part dyestuff
 $\frac{1}{2}$ —1 „ sodium sulphide crystals
 $\frac{1}{2}$ —1 „ soda ash
 $\frac{1}{2}$ —5 „ common salt.

In dyeing light shades, the larger quantity of sodium sulphide and a reduced quantity of salt are used; for dark shades the smaller quantity of sodium sulphide crystals is sufficient, whereas the larger quantity of salt should be used.

If sodium sulphide concentrated be used, only half the quantity as of sodium sulphide crystals is required.

Quantities of
sodium
sulphide.

**Dissolving
the dyestuffs.**

The dyestuffs are best dissolved in wooden vessels by pouring some hot water over them in which part of the sodium sulphide required for dyeing is dissolved. Vessels, pipes and fittings of brass or copper must not be used in dissolving or dyeing; any metal parts should consist of iron or lead.

For dissolving Immedial Maroon B conc. not more than one part of sodium sulphide crystals for every four parts of dyestuff should be used, the quantity of sodium sulphide may however be increased at will for the dyeing.

Starting bath.

When dyeing medium and dark shades the baths do not exhaust, and the starting baths should therefore be charged with a somewhat larger quantity of dyestuff. As a general rule, about one half of the dyestuff will remain in the bath in the case of dark shades, and about one-third in the case of medium shades. The exhausting of the baths is to a great extent dependent on the volume of liquor used, so that the shorter the bath, the better it will exhaust. Our remarks apply to a volume of liquor of about 20 times the weight of the cotton to be dyed.

**Dyeing
subsequent
lots.**

In dyeing subsequent lots the amount of sodium sulphide should always be regulated by, and be in proportion to, the dyestuff as stated above, whereas the quantities of soda and salt may be considerably reduced.

Generally about $\frac{1}{4}$ to $\frac{1}{8}$ th of the quantities of soda and salt used for the starting bath are employed, but even this addition is only necessary until the bath is used for the 6th or 8th time, when it can in most cases be omitted altogether.

The quantity of salt contained in the bath can at all times be easily determined by measuring with an areometer; for light shades, the bath should never titrate more than 4—6° Tw. and for dark shades 12—15° Tw. When the bath has attained this density, a further addition of soda or salt is unnecessary.

**Temperature
of the
dye-baths.**

The dyeing usually takes place at the boil, but may also be carried out at a lower temperature if necessary, in which case only the first bath need be charged with a somewhat larger quantity of dyestuff.

Immedial Maroon B conc. dyes somewhat more reddish shades at a lower temperature (abt. 120—140 ° F.).

For materials which are difficult to dye through, it is recommendable to add to the bath a little Turkey-red oil, 1% reckoned on the weight of the cotton being sufficient.

Special-
additions
to the
dye-bath.

More reddish shades may be obtained with Immedial Maroon B conc. by adding some glue (about half the weight of the dye-stuff). Dextrine may also be used instead of glue, but the latter is to be given the preference.

Immedial Cutch G and O may be dyed without the addition of sodium sulphide, in which case the dyestuff is stirred to a paste with double the quantity of caustic soda lye of 77 ° Tw., and boiling water is poured over this mixture, which is then added to the dye-bath containing 3 lbs common salt per 10 gallons water. The dyeing instructions are otherwise the same.

Dyeing
without sodium
sulphide.

An aftertreatment with bichromate of potash and sulphate of copper causes a decided improvement in the fastness to light, the shades usually becoming at the same time somewhat darker; the goods are treated for 15 to 20 minutes in a boiling hot bath containing

Aftertreatment
with
metallic salts.

- 1—2 % sulphate of copper
- 1—2 % bichromate of potash
- 2—3 % acetic acid

and rinsed.

The brown Immedial Colours may be combined at will with any of the other Immedial Colours.

Shading the
dyeings.

For shading purposes the following products come in the first place into consideration:

- Immedial Yellow D pat.
- Immedial Orange C pat.
- Immedial Olive B pat.
- Immedial Dark Green B
- Immedial Black NR pat.

These dyestuffs are dyed in the same manner as the Immedial Browns.

Brightening
with

basic colours, topped with basic colours, for which purpose we recommend

Safranine

Bismarck Brown

Tannin Orange pat.

Thioflavine T pat.

Brilliant Green

Solid Green

New Methylene Blue G G pat.

Methyl Violet.

The quantities of dyestuff used for topping being as a rule very small, they do not appreciably affect the fastness of the dyeings. The topping is carried out in a cold or lukewarm bath containing 5—10 % acetic acid or alum.

Special Dyeing Instructions.

A. The Dyeing of Cotton Yarn.

The starting baths are charged with a volume of water 20 times the weight of the yarn; the most suitable dyeing vessels are ordinary wooden vats, which are best provided at one end with squeezing rollers in order to prevent too great a loss of dye-liquor. The well boiled yarn is dyed on straight sticks for about 1 hour, each stick being given a few turns before lifting; the yarn is then squeezed off and rinsed immediately in cold water. For further particulars regarding the dyeing of cotton yarn with Immedial Colours see our book on "Cotton Dyeing".

Dyeing instructions for 100 lbs of cotton, according
to the depth of shade.

Starting bath:

- 1— 6 lbs soda ash
- 4—14 „ dyestuff
- 4—12 „ sodium sulphide crystals
- 4—60 „ common salt or desicc. Glauber's salt.

For subsequent lots:

- 1— 2 lbs soda ash
- 2—10 „ dyestuff
- 2— 8 „ sodium sulphide crystals
- 6 „ common salt or desicc. Glauber's salt.

When dyeing pale shades in the standing bath, the addition of salt may be omitted for subsequent lots.

Immedial Maroon B conc. is dyed at a temperature of only about 120 to 140° F. instead of at the boil.

B. The Dyeing of Loose Cotton.

The starting baths are charged with a volume of water about 20 times the weight of the cotton, the most suitable dyeing vessels being wooden or iron vats. The dry cotton is entered into the boiling dye-bath, boiled for about 15 minutes then kept well covered by the liquor for $\frac{1}{2}$ to $\frac{3}{4}$ hour. The cotton is then thrown into baskets so that the liquor may drain into the dye-bath, rinsed by pouring cold water over it, and finally washed thoroughly in the washing machine.

By using an iron hydroextractor the greater part of the dye-liquor may be recovered through whizzing the cotton straight from the baskets. For further particulars regarding the dyeing of loose cotton with Immedial Colours see our book on "Cotton Dyeing".

The instructions given for the dyeing of yarns are likewise applicable for loose cotton.

C. The Dyeing of Piece-Goods.

The most suitable dyeing vessel is a jigger provided with squeezing rollers; the ordinary jigger may however be employed equally well for brown shades, particularly light ones. The goods are dyed at the boil with 6 or 8 passages, and after squeezing are immediately run into another jigger filled with cold water.

Dyeing Instructions.

Starting bath:

5 oz	soda ash	} per 10 gallons of liquor,
5—24	„ dyestuff	
8—24	„ sodium sulphide crystals	
8—24	„ common salt or desicc.	
	Glauber's salt	

to which are added the quantities actually absorbed by the fibre, viz:

2—10 %	dyestuff	} calculated on the weight of the goods.
2—10 %	sodium sulphide crystals	

Additions to the standing bath, according to the shade required:

1/2—	2 %	soda ash	} calculated on the weight of the goods.
2—10 %	dyestuff		
2—10 %	sodium sulphide crystals		
1—	2 %	common salt or desicc.	
		Glauber's salt	

The goods are dyed for $\frac{3}{4}$ to 1 hour at the boil, squeezed off, and rinsed immediately.

Goods difficult to penetrate are dyed with a little less Glauber's salt, adding in its place $\frac{1}{2}$ to 1 % Turkey-red oil calculated on the weight of the goods.

D. Warp-Dyeing.

Full particulars regarding the dyeing of cotton warps in different kinds of machines will be found in our book on "Cotton Dyeing".

The bath is charged approximately as follows:

Starting bath:

5 oz	soda ash	} per 10 gallons liquor.
5—24	„ dyestuff	
5—24	„ sodium sulphide crystals	
24	„ common salt or desicc. Glauber's salt	

During the operation the bath is replenished with

$\frac{1}{2}$ —2	% soda ash	} calculated on the weight of the goods.
4—10	% dyestuff	
4—8	% sodium sulphide crystals	
3	% common salt or desicc. Glauber's salt	

The warp is passed through the hot bath (severe boiling should be avoided), then squeezed off, and finally rinsed very thoroughly

If an aftertreatment with metallic salts be required, this should be carried out in a fresh bath on a separate machine.

E. Machine-Dyeing.

The starting bath is charged with

1 $\frac{1}{2}$ — 5 oz	soda ash	} per 10 gallons liquor
9 —18 „	sodium sulphide crystals	
8 —24 „	cryst. Glauber's salt	

and with

4 —15 % dyestuff, calculated on the weight of the goods.

For dyeing subsequent lots, about the following quantities are required:

1 — 3 %	soda ash	} calculated on the weight of the goods.
3 — 9 %	dyestuff	
3 — 9 %	sodium sulphide crystals	
2 — 5 %	cryst. Glauber's salt	

The dyeing is carried out in the usual manner. At the end of the dyeing operation the dye-liquor is pressed off or drawn off by vacuum as quickly as possible. The adhering liquor may also be pressed off by means of dry steam. The goods must always be finally well rinsed.

Further particulars regarding machine-dyeing of Immedial Colours will be found in our book on "Cotton Dyeing".

Name of the Colour	Fastness to Washing	Fastness to Light	Fastness to Stoving	Fast- ness to Hot Press- ing	Fastness to Chloring	Fastness to Acids	Remarks
Immedial Cutch O Immedial Cutch G	Exceedingly good.	Dyed direct, II—III; aftertreated with bichromate of potash and sulphate of copper, IV.	Good.	IV.	The shade becomes a little paler and yellow.	Very good; they stand subsequent dyeing in an acid bath very well without tinging the wool.	<i>Immedial Cutch O yields a bright orange-brown, G a deeper, more yellowish brown; both brands serve principally for imitations of the peculiar Cutch shades. By an after-treatment with chrome and copper the shades are somewhat darkened and the fastness to light is decidedly improved.</i>
Immedial Brown B Immedial Dark Brown A Immedial Dark Brown conc.	Very good.	Dyed direct, III; aftertreated with bichromate of potash and sulphate of copper, IV.	Good, very slightly changed.	IV.	Not so good as Immedial Cutch.	Same as with Immedial Cutch.	<i>These three brands of Immedial Brown dye duller shades than Immedial Cutch; they serve for shading these and for producing deep brown shades; they are further used extensively for mode shades. By an after-treatment with chrome and copper the shades are somewhat saddened.</i>
Immedial Brown RR Immedial Brown W conc.	Very good.	Dyed direct, III; aftertreated with bichromate of potash and sulphate of copper, IV.	Good, very slightly changed.	IV.	Same as with Immedial Brown B.	Same as with Immedial Cutch.	<i>Both brands serve principally for reddish and full shades of brown; by an aftertreatment with chrome and copper the shades are somewhat darkened.</i>
Immedial Maroon B conc.	Same as with Immedial Cutch, exceedingly good.	Dyed direct, very good, III—IV.	Good, very slightly changed.	IV.	Same as with Immedial Brown B.	Same as with Immedial Cutch.	<i>Immedial Maroon B conc. is the reddest brown of the sulphide group; it is distinguished for its excellent fastness to light, washing and acids and therefore used to a large extent for producing maroon, prime and other reddish tones as well as generally for shading purposes. Immedial Maroon B conc. has also been extensively introduced for the dyeing of warps fast to acids for plush and other union goods.</i>
Immedial Yellow Brown E	Same as with Immedial Brown B.	Dyed direct, II—III; aftertreated with bichromate of potash and sulphate of copper, IV.	Good.	IV.	Same as with Immedial Brown B.	Same as with Immedial Cutch.	<i>Serves principally for the production of bright yellow-brown shades and for shading bronze and olive shades; the shade is darkened when aftertreated with chrome and copper.</i>
Immedial Bronze G	Same as with Immedial Brown B	III.	Good.	IV.	Same as with Immedial Brown B.	Same as with Immedial Cutch.	<i>Distinguished for its easily leveling properties and serving for the production of pale mode shades.</i>
Immedial Yellow D Immedial Orange C	Very good, do not bleed on white even in severe washing.	Dyed direct, II—III; aftertreated with bichromate of potash and sulphate of copper, IV.	Good.	IV.	Same as with Immedial Brown B.	Same as with Immedial Cutch.	<i>Serve principally as shading products for bright yellow-brown and olive shades and behave same as the Immedial Cutch brands in respect to properties of fastness. By an after-treatment with chrome and copper the shades of both products are considerably darkened.</i>

Immedial Colours (Self Shades).

5 %	1	5 %	13
Immedial Cutch O pat.		Immedial Brown RR pat.	
10 %	2	10 %	14
5 %	3	5 %	15
Immedial Cutch G pat.		Immedial Brown W conc. pat.	
10 %	4	10 %	16
5 %	5	5 %	17
Immedial Brown B pat.		Immedial Yellow Brown E pat.	
10 %	6	10 %	18
5 %	7	4 %	19
Immedial Dark Brown A pat.		Immedial Orange C pat.	
10 %	8	8 %	20
5 %	9	4 %	21
Immedial Dark Brown conc. pat.		Immedial Yellow D pat.	
10 %	10	8 %	22
3 %	11	5 %	23
Immedial Maroon B conc. pat.		Immedial Bronze A pat	
6 %	12	10 %	24

The stated quantities of colouring matter are those used in the standing bath.

Cotton Yarn.

For bright orange and yellow-brown shades Immedial Cutch O and G are especially well adapted and deserve particular attention on account of their excellent fastness to washing, whereas Immedial Maroon B conc., the most reddish of the brown sulphide colours, is very serviceable for the production of more reddish shades.

The other brands of Immedial Brown serve mainly for the production of full shades of brown and may be shaded at will with Immedial Cutch or Immedial Orange and Immedial Yellow D. For darkening purposes one of the Immedial Blacks can usually be employed, Immedial Black NR which dyes very level being especially well adapted.

The products are very extensively employed for all purposes in yarn and warp-dyeing, particularly for weaving yarns, for the production of shades fast to acids in union goods, for hosiery yarn, and for dyeing sail and tent cloth in the yarn. As they level well and penetrate easily when dyed in machines, they have also been very successfully introduced for the dyeing of cops, cheeses and beamed warps.

Cutch Shades.

25



4 % Immedial Cutch O pat.
0,7 % Immedial Maroon B conc. pat

26



3,5 % Immedial Yellow D pat.
0,03 % Immedial Dark Brown A pat.
0,15 % Immedial Black NR pat.
1 1/2 % sulphate of copper } after-
1 1/2 % bichromate of potash } treated.

27



5 % Immedial Cutch G pat.
2,5 % Immedial Brown B pat.
aftertreated with
1 1/2 % sulphate of copper
1 1/2 % bichromate of potash.

28



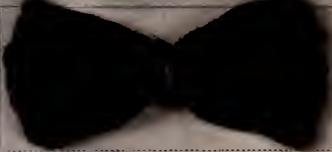
2,8 % Immedial Cutch G pat.
3,6 % Immedial Yellow D pat.
aftertreated with
1 1/2 % sulphate of copper
1 1/2 % bichromate of potash.

29



3 % Immedial Cutch O pat.
1 % Immedial Maroon B conc. pat.
topped with
0,05 % Safranine G G S.

30



5 % Immedial Cutch O pat.
1,8 % Immedial Brown RR pat.
1 1/2 % sulphate of copper } after-
1 1/2 % bichromate of potash } treated
topped with 0,15 % Safranine G G S.

31



5 % Immedial Cutch O pat.
4,5 % Immedial Brown B pat.
aftertreated with
1 1/2 % sulphate of copper
1 1/2 % bichromate of potash.

32



3,5 % Immedial Cutch G pat.
1,2 % Immedial Brown B pat

33



10 % Immedial Brown B pat.
aftertreated with
1 1/2 % sulphate of copper
1 1/2 % bichromate of potash.

34



3,5 % Immedial Maroon B conc. pat.
0,7 % Immedial Cutch O pat.

Cutch Shades.

35



7,5 % Immedial Cutch O pat.
1,5 % Immedial Maroon B conc. pat.

36



8 % Immedial Maroon B conc. pat.
2 % Immedial Brown RR pat.
topped with
0,05 % Methyl Violet R No. 1

37



5 % Immedial Dark Brown A pat.
0,25 % Immedial Black NR pat.

38



1,5 % Immedial Cutch O pat.
0,4 % Immedial Brown B pat.

39



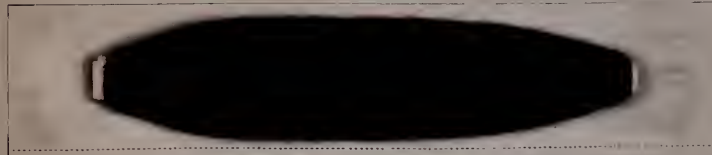
2 % Immedial Maroon B conc. pat.
1,3 % Immedial Cutch O pat.

40



4 % Immedial Cutch G pat.
1,5 % Immedial Maroon B conc. pat.
topped with
0,1 % Safranine S No. 150
0,2 % Tannin Orange R powder pat.

41



4 % Immedial Maroon B conc. pat.

42



4 % Immedial Cutch O pat.
1,5 % Immedial Maroon B conc. pat.

Loose Cotton.

The brown Immedial Colours are used extensively for dyeing loose cotton, roving and sliver.

Besides their prominent fastness to milling, washing and acids, the dyeings have the great advantage that the cotton remains extremely soft, pliable and free of dust, whereas natural Cutch hardens the material and leaves impurities, thus always causing a great deal of waste in the spinning process.

The simple method of application of the Immedial Colours, both in open vats and also in machines, has resulted in their being extensively employed for merino and other fine counts of yarn. The combinations of the various dyestuffs which come most into consideration in practice are illustrated on the opposite page.

Dyeings on Loose Cotton.

43



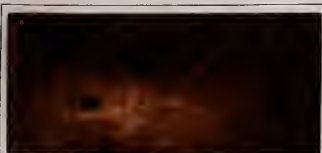
1,5% Immedial Cutch O pat.
1,8% Immedial Yellow D pat.

44



1,7% Immedial Cutch O pat.
0,6% Immedial Maroon B conc. pat.

45



7% Immedial Cutch O pat.

46



4,5% Immedial Cutch O pat.
1 % Immedial Dark Brown A pat.

47



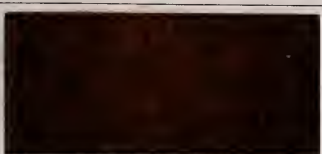
3,5% Immedial Cutch G pat.
1 % Immedial Cutch O pat.
1 % sulphate of copper } after-
1 % bichromate of potash } treated.

48



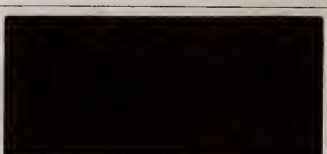
3 % Immedial Cutch O pat.
0,5% Immedial Brown B pat

49



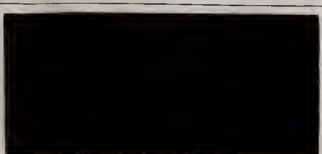
5% Immedial Cutch O pat.
2% Immedial Brown B pat.

50



7 % Immedial Cutch O pat.
2 % Immedial Brown B pat.
topped with
0,1% Safranin GGS.

51



4 % Immedial Cutch O pat.
3,75% Immedial Maroon B conc. pat.

52



5 % Immedial Brown RR pat.
2,5% Immedial Cutch O pat.

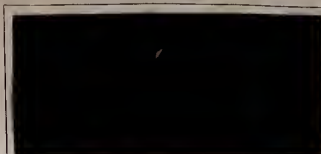
Dyeings on Loose Cotton.

53



3% Immedial Brown B pat.
1% Immedial Cutch O pat.

54



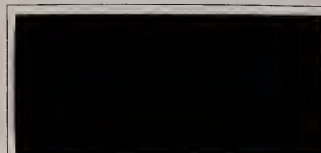
7,5% Immedial Brown B pat.
0,5% Immedial Olive B pat.

55



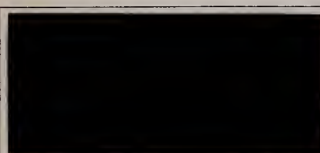
3% Immedial Maroon B conc. pat.

56



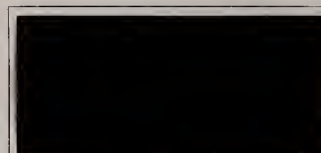
5% Immedial Maroon B conc. pat.
2% Immedial Brown W conc. pat

57



4 % Immedial Maroon B conc. pat.
1 % Immedial Brown W conc. pat.
topped with
0,2% Safranin GGS.

58



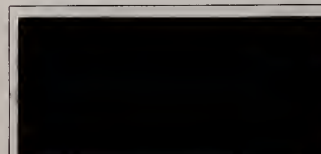
5 % Immedial Brown B pat.
aftertreated with
1 1/2 % sulphate of copper
1 1/2 % bichromate of potash.

59



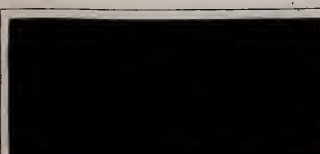
4,75% Immedial Brown B pat.
4,75% Immedial Cutch G pat.

60



5,5% Immedial Dark Brown A pat.
0,5% Immedial Maroon B conc. pat.

61



2 % Immedial Dark Brown A pat.
3,5% Immedial Cutch G pat.
0,4% Immedial Black NR pat.

62



4 % Immedial Dark Brown conc. pat.
4,5% Immedial Brown W conc. pat

Piece-Goods.

The brown Immedial Colours are employed principally for dyeing better quality cotton cloth for suitings, moleskin, sateen, velveteen and cord; further, for linen goods, sail and tent cloths. In addition to browns, olives etc.; the present shades of khaki and grey for military purposes are for the greater part dyed with Immedial Colours, particularly with combinations of Immedial Brown B, Immedial Cutch G, Immedial Olive B, Immedial Yellow D, saddened if necessary with Immedial Black.

For bright brown shades, Immedial Cutch O and G are specially to be recommended, while the other Immedial Brown brands may be used either as self shades or in combination with each other for the production of fuller shades. Immedial Dark Brown conc. and Immedial Brown W conc. have been generally adopted for very dark browns on velveteen and cord, being usually brightened by topping with basic colours such as Bismarek Brown, Chrysoïdine, Safranine etc. Very deep shades are thus obtained with a bright overhand cast and with excellent fastness, the method of production being very simple and cheap.

Worsted Cloth and Moleskins.

63



3 % Immedial Cutch O pat.
aftertreated with
1 1/4 % sulphate of copper
1 1/2 % bichromate of potash.

64



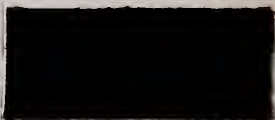
5 % Immedial Cutch G pat.
aftertreated with
1 1/4 % sulphate of copper
1 1/2 % bichromate of potash.

65



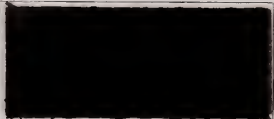
4.5 % Immedial Brown RR pat.
2.5 % Immedial Cutch O pat.

66



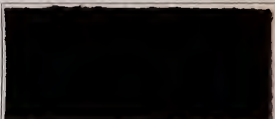
1.7 % Immedial Cutch O pat.
2.3 % Immedial Black NRT pat.

67



3 % Immedial Olive B pat.
3.5 % Immedial Cutch G pat.

68



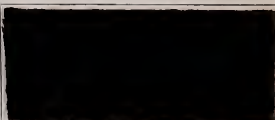
1 % Immedial Cutch G pat.
2.25 % Immedial Maroon B conc. pat.

69



7 % Immedial Brown B pat.
0.3 % Immedial Black NRT pat.
aftertreated with
1 1/4 % sulphate of copper
1 1/2 % bichromate of potash.

70



5.3 % Immedial Cutch G pat.
2.2 % Immedial Brown B pat.
aftertreated with
1 1/4 % sulphate of copper
1 1/2 % bichromate of potash.

Sateen.

71



3.5 % Immedial Maroon B conc. pat.
2 % Immedial Cutch O pat.

72



3.5 % Immedial Cutch O pat.
3 % Immedial Brown RR pat.
aftertreated with
1 1/4 % sulphate of copper
1 1/2 % bichromate of potash.

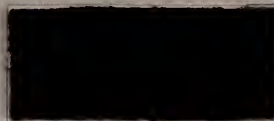
Velveteen and Cord.

73



6.5 % Immedial Brown W conc. pat.
1.7 % Immedial Maroon B conc. pat.
topped with
0.3 % Bismarck Brown GG.

74



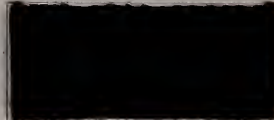
2.75 % Immedial Cutch O pat.
2.75 % Immedial Brown B pat.
aftertreated with
1 1/4 % sulphate of copper
1 1/2 % bichromate of potash.

75



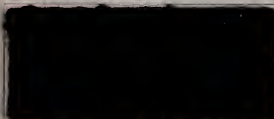
2.75 % Immedial Cutch O pat.
2.75 % Immedial Brown B pat.

76



6 % Immedial Maroon B conc. pat.
topped with
0.2 % Safranine GGS.

77



8 % Immedial Dark Brown conc. pat.
topped with
0.25 % Bismarck Brown GG.

78



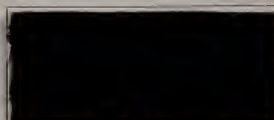
5 % Immedial Cutch G pat.
aftertreated with
1 1/4 % sulphate of copper
1 1/2 % bichromate of potash.

79



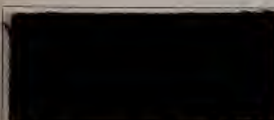
4 % Immedial Dark Brown A pat.
aftertreated with
1 1/4 % sulphate of copper
1 1/2 % bichromate of potash.

80



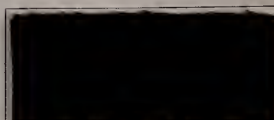
5 % Immedial Brown B pat.
1 % Immedial Cutch O pat.

81



9.5 % Immedial Dark Brown conc. pat.
topped with
0.15 % Bismarck Brown GG
0.15 % Safranine GGS.

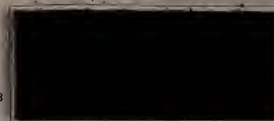
82



3.8 % Immedial Cutch G pat.
2 % Immedial Olive B pat.
topped with
0.4 % Thioflavine T pat.

Sail and Tent Cloth.

83



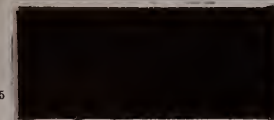
1.4 % Immedial Brown RR pat.
2.7 % Immedial Cutch O pat.
aftertreated with
1 1/4 % sulphate of copper
1 1/2 % bichromate of potash.

84



1.2 % Immedial Cutch O pat.
0.6 % Immedial Brown RR pat.
aftertreated with
1 1/2 % sulphate of copper
1 1/2 % bichromate of potash.

85



2.7 % Immedial Cutch O pat.
0.7 % Immedial Brown RR pat.
0.3 % Immedial Brown B pat.
1 1/4 % sulphate of copper } after-
1 1/2 % bichromate of potash } treated

86



3 % Immedial Brown RR pat.
1.4 % Immedial Cutch O pat.
aftertreated with
1 1/4 % sulphate of copper
1 1/2 % bichromate of potash.

Khaki and Grey Shades.

87



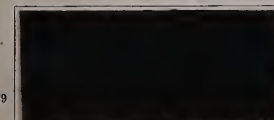
2 % Immedial Yellow D pat.
0.35 % Immedial Dark Brown A pat.
0.04 % Immedial Olive B pat.
1 1/4 % sulphate of copper } after-
1 1/2 % bichromate of potash } treated.

88



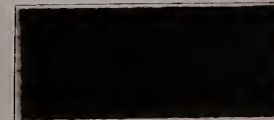
1.7 % Immedial Yellow D pat.
0.5 % Immedial Dark Brown A pat.
0.05 % Immedial Olive B pat.
1 1/4 % sulphate of copper } after-
1 1/2 % bichromate of potash } treated.

89



0.7 % Immedial Olive B pat.
1.3 % Immedial Black NR pat.
aftertreated with
1 1/4 % sulphate of copper
1 1/2 % bichromate of potash.

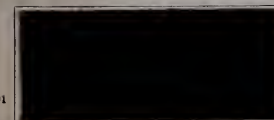
90



1.1 % Immedial Black NR pat.
0.85 % Immedial Olive B pat.
0.1 % Immedial Cutch G pat.
1 1/4 % sulphate of copper } after-
1 1/2 % bichromate of potash } treated.

Linen Cloth.

91



3.25 % Immedial Cutch O pat.
0.5 % Immedial Brown RR pat.
aftertreated with
1 1/4 % sulphate of copper
1 1/2 % bichromate of potash.

92

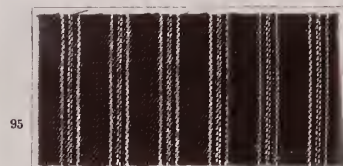


3.75 % Immedial Cutch G pat.
aftertreated with
1 1/4 % sulphate of copper
1 1/2 % bichromate of potash.

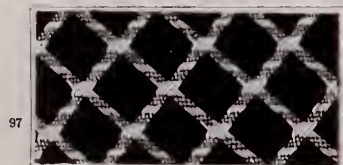
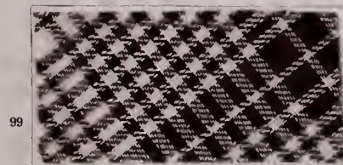
Woven Fabrics.



8% Immedial Cutch G pat.

1,75% Immedial Cutch O pat.
5% Immedial Brown RR pat.

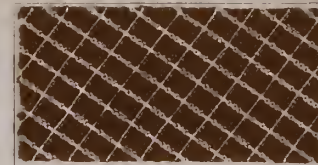
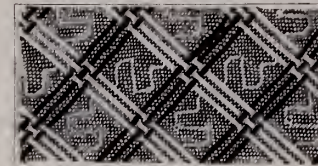
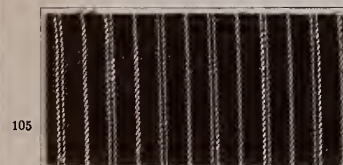
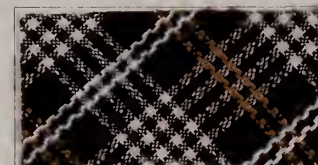
5% Immedial Maroon B conc. pat.

Brown: { 5% Immedial Dark Brown A pat.
1,5% Immedial Cutch G pat.2,75% Immedial Cutch O pat.
2,75% Immedial Brown RR pat.3,5% Immedial Brown B pat.
2% Immedial Dark Brown A pat.
1,2% Immedial Cutch G pat.

5% Immedial Cutch G pat.

Brown: { 5% Immedial Cutch G pat.
2% Immedial Brown B pat.
1% Immedial Yellow D pat.
1 1/2% sulphate of copper (after-
1 1/2% bichromate of potash treated.

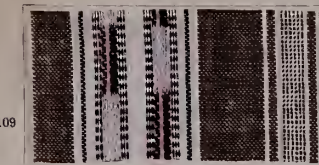
Woven Fabrics.

Brown: { 2,75% Immedial Brown RR pat.
2,75% Immedial Cutch O pat.
topped with
0,1% Safranine GGS.1,8% Immedial Cutch G pat.
1% Immedial Dark Brown A pat.2% Immedial Cutch O pat.
1,5% Immedial Orange C pat.5% Immedial Brown B pat.
1% Immedial Maroon B conc. pat.Light Brown: { 5% Immedial Cutch G pat.
1,2% Immedial Brown B pat.
Dark Brown: 5% Immedial Maroon B conc. pat.

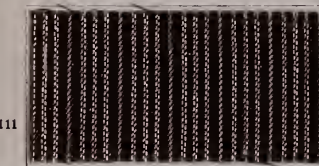
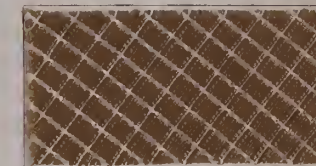
Brown: 4,5% Immedial Maroon B conc. pat.

6% Immedial Cutch O pat.
1,5% Immedial Maroon B conc. pat.4% Immedial Cutch O pat.
2% Immedial Cutch G pat.

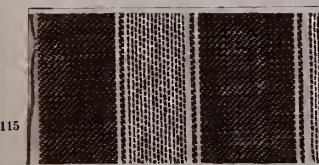
Woven Fabrics.



Brown: 6% Immedial Cutch G pat.

5% Immedial Cutch O pat.
1% Immedial Brown B pat.
2% Immedial Yellow D pat.
1 1/2% sulphate of copper (after-
1 1/2% bichromate of potash treated.1,5% Immedial Maroon B conc. pat.
2,5% Immedial Cutch O pat.1,6% Immedial Cutch G pat.
0,4% Immedial Dark Brown A pat.
0,04% Immedial Black NR pat.

Brown: 8% Immedial Brown W conc. pat.

1,75% Immedial Maroon B conc. pat.
1,25% Immedial Cutch O pat.

7% Immedial Cutch G pat.



Brown: 7% Immedial Cutch O pat.

